

Appl. No. 09/787,303

Art Unit 1772

November 26, 2003

Reply to Office Action of August 28, 2003

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the present application.

**Listing of Claims:**

Claim 1. (Previously Presented) A polytetrafluoroethylene block-shaped molded article having a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A:  $x = 1.0 \times 10^9$  (melt viscosity of  $1.0 \times 10^9$  poise), a straight line B:  $x = 2.5 \times 10^{10}$  (melt viscosity of  $2.5 \times 10^{10}$  poise), a straight line C1:  $y = 7.0$  (block deformation amount of 7.0%), a straight line D1:  $y = 0$  (block deformation amount of 0%), a straight line E1:  $y = -8.7 \log_{10}(x) + 91$  in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet is cut from the molded article,

wherein the polytetrafluoroethylene block-shaped molded article is obtained by compression-molding and baking a polytetrafluoroethylene powder obtained by suspension polymerization, and

said polytetrafluoroethylene block-shaped molded article is cylindrical and has a height of at least 800 mm.

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Claim 2. (Previously Presented) The molded article according to claim 1, wherein the melt viscosity at 380°C of the molded article is at most  $2 \times 10^{10}$  poise.

Claim 3. (Previously Presented) The molded article according to claim 1, wherein the block deformation amount is more than 0.7%.

Claim 4. (Canceled)

Claim 5. (Withdrawn) A method of producing a polytetrafluoroethylene block-shaped molded article, comprising inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, whereby giving the polytetrafluoroethylene block-shaped molded article.

Claim 6. (Withdrawn) The method according to claim 5, wherein a load per unit area at the time of baking the preform is at most 100 g/cm<sup>2</sup>.

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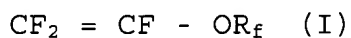
Claim 7. (withdrawn) The method according to claim 5, wherein an expansion of the height of the block-shaped molded article which is generated at the time of producing the polytetrafluoroethylene block-shaped molded article from the preform is at least 6%.

Claim 8. (Withdrawn) A method of producing a polytetrafluoroethylene block-shaped molded article, comprising inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, wherein the polytetrafluoroethylene block-shaped molded article is produced and has a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A:  $x = 1.0 \times 10^9$  (melt viscosity of  $1.0 \times 10^9$  poise), a straight line B:  $x = 2.5 \times 10^{10}$  (melt viscosity of  $2.5 \times 10^{10}$  poise), a straight line C1:  $y = 7.0$  (block deformation amount of 7.0%), a straight line D1:  $y = 0$  (block deformation amount of 0%), and a straight line E1:  $y = -8.7 \log_{10}(x) + 91$  in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount

(%) which is a weight loss until a stable film or sheet can be cut from the molded article.

Claim 9. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene powder in said polytetrafluoroethylene block-shaped molded article is a copolymer of tetrafluoroethylene and another fluoromonomer.

Claim 10. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene powder in said polytetrafluoroethylene block-shaped molded article is a copolymer of tetrafluoroethylene and another perfluorovinylether of the formula (I):

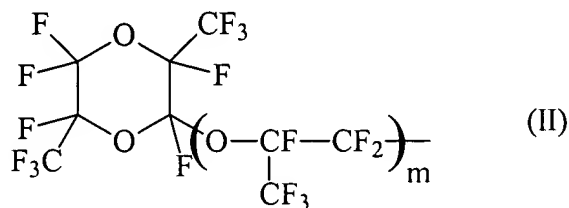


wherein  $R_f$  is

a perfluoroalkyl group having 1 to 10 carbon atoms,

a perfluoro(alkoxyalkyl) group having 4 to 9 carbon atoms,

a group represented by the formula (II):



wherein  $m$  is a number of 0 to 4, or

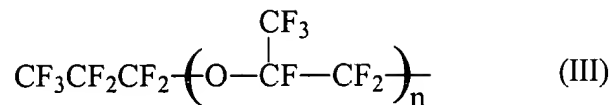
a group represented by the formula (III):

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wherein n is a number of 1 to 4.

Claim 11. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a roundness degree of not more than 5.0%.

Claim 12. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a roundness degree of not more than 0.3%.

Claim 13. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a deformation degree of not more than 15%.

Claim 14. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a deformation degree of not more than 1.0%.

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Claim 15. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a bend of not more than 2.0%.

Claim 16. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the polytetrafluoroethylene block-shaped molded article has a bend of not more than 0.1%.

Claim 17. (Previously Presented) The polytetrafluoroethylene block-shaped molded article of claim 1, wherein the height of said polytetrafluoroethylene block-shaped molded article is 20 cm to 150 cm.

Claim 18. (New) A polytetrafluoroethylene block-shaped molded article, said molded article is produced by a method comprising:

inserting a polytetrafluoroethylene preform obtained by compression-molding a polytetrafluoroethylene powder, into a pipe in a state in which a symmetry axis of the preform is horizontal; placing the pipe on two rolls spaced apart in a horizontal direction; and heating the preform to bake the preform while rotating the pipe and the preform by rotating at least one roll to transmit a rotation of the roll to the pipe, wherein the polytetrafluoroethylene block-shaped molded article is produced and has a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A:  $x =$

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$1.0 \times 10^9$  (melt viscosity of  $1.0 \times 10^9$  poise), a straight line B:  $x = 2.5 \times 10^{10}$  (melt viscosity of  $2.5 \times 10^{10}$  poise), a straight line C1:  $y = 7.0$  (block deformation amount of 7.0%), a straight line D1:  $y = 0$  (block deformation amount of 0%), and a straight line E1:  $y = -8.7\text{Log}_{10}(x) + 91$  in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet can be cut from the molded article.

Claim 19. (New) The polytetrafluoroethylene block-shaped molded article of claim 18, wherein said molded article is cylindrical and has a height of at least 800 mm.